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CAPACITY AND UTILITY

QUITE often a property is found in which capacity and utility are greatly out of balance. The appraiser finds it difficult to reconcile the cost of capacity and the income from utility, which is perhaps the most essential operation in sound appraising. The appraiser must look to two entirely different markets in order to estimate the cost of capacity and the income from utility, although the latter must be sufficient to justify the former in all proposed developments.

Recently on a consultation job in the South we found a proposed large commercial development for which the architect had planned a much greater capacity than would be warranted from the income that could be expected. It was not difficult to determine that a large excess capacity was planned and that if the project were built there would be a great loss in value due to excess construction.

Excess construction generally occurs in income properties (1) when the architect forgets that full utility is the best measure of fine architecture, and (2) when the architect is compelled by the owner to use excess in design, size or quality, or to introduce items which represent whims of the owner and which lack utility.

Excess construction may be defined as those parts of the improvements which are unnecessary or which produce no income; in fact, the income would remain the same if the excess construction were omitted. In order to find and measure the extent of excess construction, the appraiser must carefully analyze and study the property.

A property which well illustrates excess capacity was appraised by us in 1943. This property is located in a far western city and is of the multi-use type, containing seven stores on the first floor, 600 hotel rooms with 600 baths on the second to eighteenth floors, and 75,000 square feet of office rentable area from the nineteenth to thirty-sixth (tower) floors. From the thirty-seventh floor to the top of the spiral tower (a distance of 150 feet) none of the diminishing floors' areas is designed for use.

This building towers above the surrounding buildings which are less than half its height. The following gives a brief description of its construction quality:

"Embodying some imported materials and a few replicas of foreign architectural gems, all of the materials and workmanship are of high quality and apparently no expense was spared in construction details. Besides the high construction quality, it was evidently the purpose of the owner to incorporate those symbolic features which

represented its ideals and aspirations. Ornamental bronze plaques, bronze elevators, symbolic statuary on a massive scale, etc., were embodied in this magnificent structure. From the thirty-seventh floor to the top of the tower (about 150 feet) there is practically no rentable space but the exterior is used for ornamentation and as a monument; it represents costly construction with low utility. As stated in the brochure of the owner issued at the time of dedication of the property in 1927, this property was considered a 'monument to progress.' "

Due to the exceptional height of the improvements it was found necessary to sink about 44 piers 75 to 80 feet below the basement floor with pneumatic caissons in order to secure a sufficient foundation to carry the imposed load. This had not been necessary on many other office buildings of fewer stories and lower height which previously had been built in this municipality.

The reproduction cost as of 1943 was estimated as follows:

1300 sq. ft. of concrete drive @ 20¢	\$ 260
44 pneumatic piers, connecting beams, etc.	575,000
Main bldg. exclusive of tower 4,158,700 cu. ft. @75¢	3,119,025
Tower above 19th floor, 1,252,300 cu. ft. @ 90¢	1,127,070
Bridge to main hotel, 18,000 cu. ft. @ \$1.25	22,500
Reproduction cost including contractor's profit ..	\$4,843,855
Architect's fees, interest, insurance and taxes during construction, 8.7%	421,415
Total Reproduction Cost 1943	\$5,265,270

It was reported at the time that the improvements cost \$7,764,644 when built, or 47 per cent above the cost of 1943. The land was estimated as having a value of \$200,000 by comparison and from ground floor use. The great difference between the value of the land and the cost of improvements indicates an over-improvement.

An examination of the property and even the brief description of the design and construction quality outlined above would indicate excess construction. The question arises as to whether the 44 pneumatic piers costing \$575,000 can be classed as excess construction. Evidently for a building 45 stories in height these piers are structurally essential; however, none of the three uses produces enough income to pay a return upon the cost of the piers. (1) The ground floor which rents at \$1.95 per square foot does not include a rent on the piers; in fact, there would be no reduction in the rent if the piers were omitted. (2) The rent of \$21.50 per room per month for the hotel does not include a return on the cost of the piers; this rent would be the same in another location without piers. (3) Lastly, the office space which rents for \$1.87 per square foot does not include a net return on the cost of the piers estimated at $(\$575,000 \div 12.948)$ \$45,000 annually, or 60¢ per square foot. Because the three main uses do not provide a return on the cost of the piers, it is necessary to assume that the piers are economically non-use construction and that this tower design property should not have been built because non-use construction created a loss in value from the date of its construction.

When piers become necessary in order to correct a bearing weakness of a particu-

lar site, it is customary to assess the cost of strengthening the bearing capacity to the value of the land. This is impossible in this case, as the cost of increasing bearing power is almost three times the value of the land determined from comparison or determined from rentals of first floor use. This fact further confirms the conclusion that the construction of this project was economically unsound in the beginning.

Likewise, the extreme excellence of many of the materials of construction and the expensive ornamentation of plaque and sculpture, which gratified the whims of the original owner, did not create any increased desirability of the building's usable space. The top 150 feet of the tower is costly construction but produces slight revenue. The monumental nature of the property is not compatible with investment possibilities. Monuments commemorate the dead past and belong only on public buildings and churches, or in parks and cemeteries.

The summaries of our appraisal of this property made in 1943 from the cost and income approaches follow.

COST APPROACH

Value of land	\$ 200,000
Reproduction cost	<u>5,265,270</u>
Total or Maximum Value	\$5,465,270

Loss in value from depreciation	
Deterioration, 16 yrs. 20.0% -	\$1,053,054
Obsolescence, 16 yrs. 8.0% -	421,222
Non-use construction <u>25.3%</u> -	<u>1,330,994</u>
Total Depreciation 53.3%	<u>\$2,805,270</u>
Value of Property	\$2,660,000

INCOME APPROACH

<u>Income</u>	
Stores, 1st floor, 4,500 sq. ft. @ \$1.95	\$ 8,784
Hotel, 2nd to 18th floor, 600 rms. @ \$21.50 per mo.	155,000
Offices, 19th to 36th floor, 75,197 sq. ft. @ \$1.87 ..	140,400
Miscellaneous	<u>3,200</u>
	\$ 307,384
Vacancy allowance - offices 8% -	\$11,232
Vacancy allowance - stores 5% -	<u>440</u>
Total Allowance	\$ 11,672
Effective Gross Income	\$ 295,712

<u>Expenses</u>	
All property expenses	\$ 94,000
Effective net income before depreciation, interest and amortization	<u>\$ 201,712</u>

The effective net income is allocated between land and improvements as follows:

Land	\$ 12,000
Improvements	189,712
Total Net Income	<u>\$201,712</u>

In capitalizing income, a rate of 6 per cent was used for the land capitalizing income as a perpetuity. A rate of 7 per cent was used for the improvements, capitalizing the return to the improvements for 35 years to a present value as follows:

Value of land, $\$12,000 \div .06$	\$ 200,000
Value of improvements, $\$189,712 \times 12.948$	<u>2,460,000</u>
Value of Property	<u>\$2,660,000</u>

With this property more than 25 per cent of the cost to reproduce it was lost because of non-use construction. The loss occurred from the moment it was constructed. Some will claim that the building had advertising value to a business other than the uses to which the usable space was put. We included no income from advertising applicable to the building because it was quite difficult for pedestrians to see the tower.

As stated in several previous bulletins, capacity when created by the architect and contractor becomes valuable only as it can be utilized. Also, cost of capacity must be balanced by a sound return from its utility.

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